DOCUMENT RESUME

ED 373 038 SP 035 379

| | |
|---|---|
| TITLE | Fire Safety: Stop the Heat. Fourth Grade. Fire Safety for Texans: Fire and Burn Prevention Curriculum Guide. |
| INSTITUTION | Texas State Commission on Fire Protection, Austin. |
| PUB DATE | Feb 93 |
| NOTE | 42p.; For other guides in the series, see SP 035 375-385. |
| AVAILABLE FROM | Texas Commission on Fire Protection, Fire Prevention Education, P.O. Box 2286, Austin, TX 78768. |
| PUB TYPE | Guides - Classroom Use - Teaching Guides (For Teacher) (052) |
| EDRS PRICE | MF01/PC02 Plus Postage. |
| DESCRIPTORS | Community Services; Emergency Programs; *Fire Protection; Grade 4; Injuries; Instructional Materials; Intermediate Grades; Learning Activities; Lesson Plans; Peer Influence; Prevention; *Safety Education; Self Motivation; State Curriculum Guides |
| IDENTIFIERS | *Texas |

ABSTRACT

This booklet comprises the fourth grade component of a series of curriculum guides on fire and burn prevention. Designed to meet the age-specific needs of fourth grade students, its objectives include: (1) understanding principles of extinguishing fires, (2) investigating issues of peer pressure related to fire setting, (3) developing self-motivation to effect changes with family involvement, and (4) exploring the role of the fire service in the community. Texas essential elements of instruction that may appropriately be integrated with the fire prevention curriculum are listed. The booklet's three sections provide lesson plans, teacher materials, and student materials. The five lessons are: "Science of Fire"; "Pressure--Off"; "Smoke and Gases"; "Safe Get-Away"; and "Emergencies." Each lesson plan includes objectives; a list of materials; and suggestions for a focus activity, presentation of content, guided and independent practice, reteaching, enrichment, and closure. A pretest/posttest is provided, along with activity sheets to be photocopied. A scope and sequence chart covering kindergarten through high school is also presented. (JDD)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED 373 038

SP

# Fire Safety for Texans

**Fire and Burn Prevention Curriculum Guide Developed by Texas Commission on Fire Protection**

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☐ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

M E. Hines

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

## *Fourth Grade*

# Fire Safety: Stop the Heat

SP035379



BEST COPY AVAILABLE

# Texas Commission on Fire Protection

P.O. Box 2286 • Austin, Texas 78768-2286 • (512) 873-1700

Dear Educator:

The Texas Commission on Fire Protection is pleased to provide this curriculum guide to facilitate the teaching of fire prevention. To understand why instruction in fire prevention must be matched to the developmental needs of students, please read the Introduction section beginning on Page 3. This introduction also tells how fire prevention education can be coordinated with the instructional requirements of Texas schools.

We welcome your comments and suggestions. Please telephone or write to share your successes and questions with our staff. Also, we invite you to request guides for other grade levels and additional copies of this booklet by clipping and returning the form below.

Your involvement in fire prevention education will be appreciated by your students and your entire community.

Sincerely,

Anne Easterling
Program Administrator
Fire Prevention Education

Andrew F. Mehl
Chairman
El Paso

Roy Chapman
Vice Chairman
Abilene

David Burkhart
Secretary
Arlington

Ronnie James
Wichita Falls

Pat Hughes
North Richland Hills

Armando Caceres
Corpus Christi

Alonzo Lopez
Kingsville

Larry McKee
Austin

Gerald Hood
Benbrook

Elizabeth Jane Atchley
Lefors

Steve Perdue
Mineral Wells

Jan Stalder
Parker

Michael E. Hines
Executive Director

Ernest A. Emerson
State Fire Marshal

✂ .....

Please send the following curriculum guide(s):

| Grade Level | Quantity | Grade Level | Quantity | Grade Level | Quantity |
|---|---|---|---|---|---|
| Kindergarten | | Fourth Grade | | Seventh Grade | |
| First Grade | | Fifth Grade | | Eighth Grade | |
| Second Grade | | Sixth Grade | | High School Health | |
| Third Grade | | | | High School Economics | |

Comments and suggestions on Grade _____ guide(s):

_____

_____

Are you currently using other materials produced by the Commission on Fire Protection? (Circle one) Yes No

Name _____ Position _____

Address _____ Telephone _____

City _____ State _____ ZIP _____

**Mail to: Texas Commission on Fire Protection, Fire Prevention Education, P.O. Box 2286, Austin, TX 78745**

# Fire Safety for Texans

**Fire and Burn Prevention**
**Curriculum Guide Developed by**
**Texas Commission on Fire Protection**

*Fourth Grade*

# Fire Safety: Stop the Heat

Published February 1993
Texas Commission on Fire Protection
Michael E. Hines, Executive Director
Ernest A. Emerson, State Fire Marshal
Anne Easterling, Program Administrator
Fire Prevention Education
P.O. Box 2286, Austin, Texas 78768-2286
(512) 873-1700

☆ The Texas Commission on Fire Protection does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or in its activities. For fire prevention information presented in other media, write to the address above.

☆ Additional copies are available from the address above. This publication may be reproduced in its entirety. Such reproduction must include credit to the original producer, specifically the Texas Commission on Fire Protection.

☆ Copies of this publication have been distributed in compliance with the State Depository Law and are available for public use through the Texas State Publications Depository Program at the Texas State Library and other state depository libraries.

# Fire Safety for Texans

**The complete series from the Texas Commission on Fire Protection**

**Kindergarten**
Fire Safe Together

**First Grade**
Fire Safety: Any Time, Any Place

**Second Grade**
Making Me Fire Safe

**Third Grade**
Positively Fire Safe

**Fourth Grade**
Positively Fire Safe

**Fourth Grade**
Fire Safety: Stop the Heat

**Fifth Grade**
Charged Up For Fire Safety

**Sixth Grade**
Fire Safety Power

**Seventh Grade**
Responsible For Fire Safety

**Eighth Grade**
Fire Safety's My Job

**Health (High School)**
A Lifetime For Fire Safety

**Economics (High School)**
Fire Safety For Consumers

# Scope and Sequence for Fire and

| | Kindergarten | First Grade | Second Grade | Third Grade | Fourth Grade |
|---|---|---|---|---|---|
| **General Objectives** | basic awareness of fire and burn dangers; simple actions to reduce injury; parent involvement | basic knowledge of fire and burn hazards; basic understanding of simple injury reduction; continuation of parent involvement | basic understanding of how to prevent and put out fires; greater self-direction to prevent and react to fire, smoke or burn situations | hazards and safe storage of flammable liquids, positive actions to prevent fires and burns or to reduce injuries, especially related to metallic objects | principles of extinguishing fires; issues related to peer pressure related to fire setting; self-motivation to effect changes with family involvement; role of fire service in the community |
| **Science of Fire**<br>understands and analyzes facts about fire | classifies "good" and "bad" fires and heat sources *25(a)3A, 26(a)1C | identifies three elements of fire triangle *25(b)2C<br>lists and classifies things that do and do not burn *25(b)3B,5B | explains putting out a fire as removing or controlling one element *25(c)3B, 26(c)1C<br>defines and gives examples of controlled and uncontrolled fires *25(c)3B, 25(c)1C | defines and gives examples of combustible, noncombustible, flammable and nonflammable materials, with relation to gas, liquid and solid states *25(d)7A, **3.1,3.5 | interprets three elements of fire to explain how to prevent and extinguish fires *25(e)6B, 26(e)1G<br>describes characteristics of heated gases from fires *25(e)4B, 26(e)1G |
| **Safety Communication**<br>knows and applies terms and symbols associated with fire and burn safety | identifies EXIT signs in schools and public buildings *29(a)1E<br>identifies "hot" and "cold" symbols on faucets *26(a)1C, 29(a)1E | | | | |
| **Injury Reduction**<br>knows, performs and analyzes techniques to reduce fire and burn injuries | demonstrates and practices rolling on ground in case of clothing fire *25(a)3C, 26(a)1C, 29(a)1D<br>demonstrates and practices crawling on ground in smoke of fire situations *25(a)3C, 26(a)1D | demonstrates cooling a burn with cool water *25(b)5B, 26(b)1C, **1.1<br>demonstrates and describes crawling in suspected smoke or fire situation because smoke rises *25(b)2C, 26(b)1C, **1.1<br>demonstrates and describes rolling to put out clothes fire *26(b)1C, **1.1 | explains using cool water to reduce burn injury *25(c)7B, 26(c)1C<br>explains that rolling on ground keeps air from fire on clothes *25(c)7B, 26(c)1C<br>explains that smoke and gases from fire can affect thinking *25(c)7B, 26(c)1C | explains injury reduction skills to others through song, dance, story, demonstration, etc. *26(d)1D,1E | lists and describes effects of toxic gases in smoke and fire byproducts *25(e)7B, 26(e)1G, ** 1.4 |
| **Hazard Recognition**<br>recognizes fire and burn hazards at home, play and work | classifies hot and cold objects, including cigarettes and appliances *25(a)1A,3A, 26(a)1C<br>identifies smoking cigarettes as a hazard to cause burns and to start fires *26(a)1D | distinguishes electrical objects, a potential heat source, as having cords *25(b)3B,4B<br>identifies home and community as city or rural and types of related fire risk *25(b)6D, 29(b)5A, **1.6 | predicts how electrical appliances can become hazards through carelessness, misuse, disrepair, including unattended cooking *25(c)6A, 26(c)1C<br>identifies special holiday hazards related to family customs or traditions *26(c)1C, 29(c)6B | classifies metallic and non-metallic objects *25(d)3B, **3.6<br>distinguishes metallic objects as contact burn hazards *25(d)6B,8A, 26(d)1E<br>identifies positive behaviors with hazardous appliances *26(d)1E | describes types of hazards from discarded cigarettes *26(e)1F |
| **Hazard Reduction**<br>applies and values techniques for reducing or eliminating fire and burn hazards | states rule to stay aware from hot objects *26(a)1C, 29(a)1A<br>tells parents, "Keep me safe from fire" *29(a)1B | describes or illustrates need for smokers to have watchers *25(b)7B, 26(b)1D<br>encourages parents to conduct home inspection using provided checklist *25(b)7B, 26(b)1C,2B | describes benefit of family working together to reduce fire and burn hazards *26(c)2B<br>writes at least five rules for safe behavior *29(c)1C | conducts inspection for safe flammable storage with parents using provided checklist *26(d)1E,2B<br>identifies fire safety for holidays in each month *26(d)1E | demonstrates reactions to hazardous situations, including removal of fire hazards *26(e)1F<br>identifies safety features in school, home and other buildings *26(e)1F,1G |
| **Escapes And Drills**<br>knows and applies methods of fire and smoke warnings and escape and exit techniques; values the importance of smoke detectors and escape planning | demonstrates actions in school exit drills *26(a)1C, 29(a)1D | identifies smoke alarm as warning to get out *26(b)1C<br>draws map of home with two ways out for everyone *25(b)4D<br>states steps and rules for school exit drill *26(b)1C, 29(b)4B | describes general guidelines for smoke detector placement (each level, outside bedrooms) *26(c)1C<br>describes or illustrates alternate ways out of a building *26(c)1C<br>organizes home drill *26(c)1C,2B, 29(c)1C | gives details of action at home alone in suspected fire situations *26(d)1D<br>assists parent in maintaining smoke detector using provided guidelines *25(d)7B, 26(d)1E,2B<br>identifies low battery warning on smoke detector *26(d) 1D | explains need for exit plans and drills, especially at home *25(e)6A, 26(e)1F,2C, 29(e)1A, **1.8 |
| **Matches And Fireesetting**<br>recognizes hazards of matches, lighters and other firesetting instruments; knows and values techniques for reducing intentional fires | demonstrates telling an adult if he/she sees matches *26(a)1C, 29(a)1A | describes or illustrates matches as tools for adults *26(b)1C | describes why matches are not toys *26(c)1C | describes how matches can be used safely *26(d)1E | demonstrates resisting peer pressure related to fire, matches and smoking *29(a)1C, **1.8 |
| **Reporting A Fire**<br>knows and applies appropriate methods of reporting suspected fire or smoke situations | demonstrates telling an adult about smoke or fires *25(a)3C, 26(a)1C | demonstrates yelling and other signals to warn others *26(b)1C<br>memorizes emergency telephone number *26(b)1C | demonstrates dialing emergency telephone number *26(c)1C<br>demonstrates giving name and address *26(c)1C | describes or demonstrates what to report in an emergency situation *26(d)1D | describes local locations and uses of fire alarm boxes *26(e)1F |
| **Care Giving**<br>understands and values appropriate supervision of and intervention for other people, especially young children and older adults | tells parents to give fire safety rules to baby-sitter *26(a)1C | | | writes rules for baby-sitter or care giver for family, with parents' assistance and consideration of ages of family members *26(d)2B, 29(d)2A, 6B | |
| **The Fire Service**<br>understands and values the role of the fire service in preventing and suppressing fires | identifies fire fighters and other fire service workers as friends *29(a)1B | describes fire fighter as community helper who helps prevent fires and who puts out fires *25(b)7C, 29(b)4C, **1.7 | identifies ways that fire fighters are involved in fire suppression and prevention *29(c)4A | | lists the four primary services provided by the fire services *26(e)3A<br>describes fire department's role in helping the community stay safe and healthy *26(e)3A, **1.7 |
| **Outdoor Safety**<br>knows and applies techniques for reducing outdoor fires and injuries from outdoor fire and burn hazards | demonstrates or illustrates staying away from campfire, trash burning, etc. *26(a)1C | distinguishes how outdoor fires are different from building fires *25(b)6D, 26(b)3, **1.6 | identifies outdoor electrical hazards (storms, tools, campfires) *25(c)4B, 26(c)3A, **2.9 | | describes safe practices with fireworks *29(e)3B, **1.6<br>writes at least five rules for outdoor fire safety *29(e)3B |

BEST COPY AVAILABLE

# Burn Prevention Education In Texas

| Fifth Grade | Sixth Grade | Seventh Grade | Eighth Grade | Health | Economics |
|---|---|---|---|---|---|
| heating equipment safety; impact of fire on outdoor environment and methods to reduce that impact; first aid for burns; personal relationship to community fire safety | fire physics; electrical hazards and responding to those hazards; continuation of first aid for burns | responsible decision-making regarding fire and burn hazards, including peer pressure related to fire risks; preparation for and reaction to possible fire situations | technical aspects of fire hazards and detection; fire hazards outside the home | review of fire and burn prevention techniques and emergency actions; awareness of needs of all age groups; smoking and flammable liquids | awareness of adult responsibilities to preserve family, property and economy; preparation for maintaining one's own home; U.S history of fire and burn incidents |
| | lists types of heat and fuel to define classes of fire *25(g)2D, **3.1<br>describes fourth element of fire, uninhibited chemical reactions *25(g)4B, **3.1<br>describes three types of fire extinguishers *26(g)1H | | defines and describes flash point, flash fire, flammability of construction and clothing types *44(b)7D | | |
| analyzes product advertisements for fire and burn safety information *26(f)2A | | analyzes product labels for fire safety, including flammable or combustible warnings, nonflammable labels *44(a)11C<br>communicates hazards of smoking, using written, illustration or oral format *48(a)1D | | identifies and describes cigarette health messages and writes cigarette fire safety messages *65(a)1A,1D,2A<br>identifies and describes flammable liquid warnings on home-use products, cleaners, gasoline, etc. *65(a)1E | defines terminology relating to fire insurance and home safety (detectors, sprinklers, etc.) *69-4D |
| describes three classes of burns and first aid for each *26(f)1G,2D | classifies six types of burns by causes (contact, UV, chemical, etc.) *26(g)2D<br>describes special first aid actions for burns other than contact burns *26(g)2D | | | lists best actions in suspected fire or smoke situations and first aid for three types of burns *65(a)1E | |
| explains hazards of heating equipment, including safety considerations such as UL inspection certification and proper placement *25(f)7B, 26(f)1H, **2.6<br>analyzes safety of alternative heating 26(f)6E, 26(f)1H), **2.6 | describes why electricity and electrical appliances are fire and burn hazards, relating amount of energy used by various appliances to fire risk *25(g)6D, **3.4 | | lists at least 10 typical hazards in the workplace, including industrial, retail and office *44(b)3 | describes role of carelessness in fires and burn injuries, including cigarettes, heating and cooking *65(a)1B,1D,1G<br>organizes and conducts comprehensive home inspection, including outdoors and nonliving areas *65(a)1B,1E,1G | describes the economic impact of fires and related casualties in the U.S. *69-1B,1G |
| conducts inspection of home heating equipment with parents to check for safe usage *25(f)7B, 26(f)1H, **2.6<br>gives examples of correcting holiday hazards *26(f)1H | develops holiday checklist that applies fire safety rules *25(g)7B, 26(g)1H,2C | writes at least 10 rules for smokers *44(a)11B,C<br>describes safe practices with fire hazards commonly found in home or outdoors *44(a)11C<br>develops and implements home survey instrument *44(a)11C | describes desire to be safe and to keep others safe *44(b)7D | organizes and conducts comprehensive home clean-up, including outdoors and nonliving areas *65(a)1B,1E,1G | describes fire and burn safety responsibilities of consumers and residents *69-1G,4A<br>identifies hazard reduction efforts of various organizations, agencies *69-2A, 4B |
| evaluates school exit drill *25(f)2D,6A, 26(f)1H (relate to vol kf) | analyzes prepared maps of other locations to show appropriate detector placement *26(g)1H,2C<br>draws map of home to scale to show smoke detector placement and home exit plan *25(g)7B, 26(g)1H,2C | describes or demonstrates what to do in unusual circumstances *44(a)11C,48(a)4I<br>organizes an obstructed drill at school or home *48(a)4J | describes basic function of two types of smoke detectors *48(c)3D<br>describes basic function of sprinklers, including residential fast response sprinklers *48(c)3D<br>surveys and maintains smoke detectors at home *48(c)3D | | lists types of building code requirements for detectors, sprinklers, exits *69-2A,4B,4D |
| describes hazards of intentional fires, especially relating to waste and loss of resources *29(f)2B | | describes alternative behaviors to peer pressure related to firesetting and smoking *44(a)11A, 48(a)1D<br>identifies arson as a crime *48(a)2L<br>writes at least five rules for using matches and lighters *44(a)11B,C | | | explains effects of business fire on community and production *69-1B,1E |
| identifies hazard of false alarms, especially relating to wasting resources *29(f)2B | prepares time line in response to fire sighting and reporting *25(g)4E, 29(g)7A<br>explains why to report smoke or suspected fire promptly *25(g)6D, 26(g)1H | describes how to discourage false alarms *44(a)11C,48(a)2L | | | |
| | | outlines and details duties of baby-sitter *44(a)11C, 48(a)4I,J | | describes general accident prevention and wellness needs of children, handicapped and senior citizens *65(a)1G,3E | describes fire and burn safety responsibilities of citizens in their roles as caregivers or providers *69-4A |
| describes role of volunteer fire department in the community *26(f)3A | describes professionals involved in emergency response and burn care *26(g)3A | | | describes at least five community health services and other resources that assist in community fire safety *65(a)3D | |
| describes impact of grass and tree fires on land forms *25(f)6E, **2.2<br>lists steps in safe procedures for burning debris and cooking on charcoal, campfire, grill *26(f)3B<br>gives examples and application of clearing trash and brush to reduce fire hazard *26(f)3B | describes dangers of high tension wires *26(g)1H, **3.4 | lists comprehensive camping safety rules *44(a)4B | lists comprehensive rules for outdoor safety *44(b)7D<br>investigates community laws on fireworks *44(b)7D | describes fire safety precautions related to gasoline, autos, outdoor tools and discarded cigarettes *65(a)1G | |



BEST COPY AVAILABLE

| | Kindergarten | First Grade | Second Grade | Third Grade | Fourth Grade |
|---|---|---|---|---|---|
| * Essential Elements<br>Current essential elements as defined by Chapter 75 of the Texas Education Code that apply: The student shall be provided opportunities to: | §75.25 (a) 1A. use comparators: ... heavy/old.<br>§75.25 (a) 3A. classify objects by comparing similarities and differences.<br>§75.25 (a) 3C. arrange events in sequential order.<br>§75.26 (a) 1C. recognize hazards in the environment and acquire knowledge and skills needed to avoid injuries and to prevent accidents.<br>§75.28 (a) 1D. recognize negative effects of ... tobacco.<br>§75.29 (a) 1A. identify examples of right and wrong behavior.<br>§75.29 (a) 1B. discuss ways people can help each other.<br>§75.29 (a) 1D. practice rules of safety.<br>§75.29 (a) 1E. recognize safety symbols. | §75.25 (b) 2C. observe properties of objects, organisms, and events in the environment.<br>§75.25 (b) 3B. classify objects, organisms, actions, and events from the environment according to similarities and differences.<br>§75.25 (b) 4B. describe objects, organisms, and events from the environment.<br>§75.25 (b) 4D. record data and interpret the arrangement of data on picture graphs, bar graphs, and maps.<br>§75.25 (b) 5B. compare temperature of objects.<br>§75.25 (b) 6D. draw conclusions from observed data.<br>§75.25 (b) 7B. relate objects and activities to daily life<br>§75.25 (b) 7C. relate science to careers.<br>§75.26 (b) 1C. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents<br>§75.26 (b) 1D. recognize negative effects of tobacco<br>§75.26 (b) 2B. recognize the health of the family depends upon contributions of each of its members<br>§75.26 (b) 3. recognize interdependence of people and the environment, and recognize personal responsibility for protecting the environment.<br>§75.29 (b) 4B. identify school and community rules (laws)<br>§75.29 (b) 4C identify authority figures in ... community<br>§75.29 (b) 5A. know geographical location of home in relation to school and community | §75.25 (c) 3B. classify matter and forces, organisms, actions, and events from the environment according to similarities and differences.<br>§75.25 (c) 4B. describe objects, organisms, and events from the environment.<br>§75.25 (c) 6A. predict the outcomes of actions based on experience or data.<br>§75.25(c)7B. relate objects, science principles, and activities to daily life.<br>§75.26 (c) 1C. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents<br>§75.26 (c) 2B. recognize the health of the family depends upon contributions of each of its members<br>§75.26 (c) 3A. recognize interdependence of people and the environment, and recognize personal responsibility for protecting the environment<br>§75.29 (c) 1C. volunteer for leadership<br>§75.29 (c) 4A. identify some government services in the community<br>§75.29 (c) 6B. describe family traditions and customs | §75. 25 (d) 8A. Use observations to form definitions of objects, actions, organisms, events, and processes.<br>§75. 26 (d) 2B. recognize the health of the family depends upon contributions of each of its members<br>§75.25 (d) 6B. state generalizations about similarities and differences among objects, organisms, and events.<br>§75.25 (d) 7A. compare and contrast objects, organisms, and events.<br>§75.25 (d) 7B. relate classroom objects, science principles, and activities to daily life.<br>§75.25(d) 3B. classify matter and forces, organisms, action, and events from the environment according to similarities and differences.<br>§75.26 (d) 1D. practice general emergency procedures<br>§75.26 (d) 1E. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents<br>§75.29 (d) 2A. describe ways a community satisfies needs for food, clothing and shelter<br>§75.29 (d) 6B. describe how individuals and families change over time | §75. 26 (e) 3B. recognize interdependence of people and the environment, and recognize personal responsibility for protecting the environment<br>§75. 29 (e) 1A. accept the responsibilities of membership in various groups<br>§75.25 (e) 4B. describe objects, organisms, and events from the environment.<br>§75.25 (e) 6A. predict the outcomes of actions based on experience or data.<br>§75.25 (e) 7B. relate classroom objects, science principles, and activities to daily life.<br>§75.25 (e) 8B. state relationships among objects, organisms, and events using operational definitions.<br>§75.26 (e) 1F. practice general emergency procedures<br>§75.26 (e) 1G. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents<br>§75.26 (e) 2C. recognize the health of the family depends upon contributions of each of its members<br>§75.26 (e) 3A. recognize scope of services provided by community health agencies<br>§75.29 (e) 1C. explain how groups influence individual behavior. |
| ** Science Content<br>content from the sciences that shall be emphasized at the grade level shall include: | | Life Science<br>1.1 basic needs and life processes<br>1.6 ecology ... interdependence of living things.<br>1.7 application of life science to careers and everyday life. | Earth Science<br>2.9 human responsibility regarding earth science phenomena ... natural resources. | Physical Science<br>3.1 energy ... kinds of energy ... forms of energy ... sources of energy.<br>3.5 phases of matter: solids, liquid and gas.<br>3.6 structure of matter ... families of elements: metals and nonmetals.... | Life Sciences<br>1.4 structure and function of the human body.<br>1.6 ecology ... interdependence of living things.<br>1.7 application of life science to careers and everyday life.<br>1.8 human responsibility regarding life science phenomena. |

02/18/93

| Fifth Grade | Sixth Grade | Seventh Grade | Eighth Grade | Health | Economics |
|---|---|---|---|---|---|
| §75.25 (f) 2D. observe phenomena resulting from the life, earth, and physical sciences<br>§75.25 (f) 6A. predict the outcomes of actions based on experience or data<br>§75.25 (f) 6E. draw conclusions from observed data.<br>§75.25 (f) 7B. relate classroom objects, science principles, and activities to daily life.<br>§75.26 (f) 1G. identify ways to care for the principal body systems<br>§75.26 (f) 1H. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents<br>§75.26 (f) 2A. recognize benefits and limitations of advertising as it relates to selection of health ... products<br>§75.26 (f) 2D. recognize need for first aid<br>§75.26 (f) 3A. identify locally available voluntary health agencies<br>§75.28 (f) 3B. recognize interdependence of people and the environment, and recognize personal responsibility for protecting the environment<br>§75.29 (f) 2B. explain why conservation of economic resources is important | §75.25 (g) 2D. observe phenomena and apply knowledge of theories, facts, and concepts from the life, earth, and physical sciences<br>§75.25 (g) 4B. name and describe objects, organisms, and events from the environment<br>§75.25 (g) 4E. record data and interpret the arrangement of data on graphs, tables, and other visuals<br>§75.25 (g) 6D. form and state generalizations about similarities and differences among observed objects, organisms, events, and phenomena<br>§75.25 (g) 7B. relate classroom objects, science principles and activities to daily life<br>§75.26 (g) 1F. identify factors, including peer pressure, that contribute to -- tobacco ... abuse and methods of prevention<br>§75.26 (g) 1H. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents<br>§75.26 (g) 2C. recognize the health of the family depends upon contributions of each of its members<br>§75.26 (g) 2D. identify basic emergency treatment<br>§75.28 (g) 3A. relate the system of health services provided by government to the health needs of people<br>§75.29 (g) 7A. make and interpret time lines | §75. 48 (a) 1D. recognize that individuals must accept the consequences of their decisions<br>§75.44 (a) 11B. investigate the range of effects on personal health and safety from the use of ... tobacco<br>§75.44 (a) 11C. discriminate between responsible and irresponsible choices that affect personal health<br>§75.44 (a) 4B. describe ecological relationships in the environment<br>§75.44(a) 11A. determine alternate courses of action when one is being pressured concerning use of ... tobacco<br>§75.48 (a) 3L. support the rules and laws of one's school, community, state and nation<br>§75.48 (a) 4I. develop criteria for making judgments<br>§75.48 (a) 4J. use problem-solving skills | §75.44 (b) 3. classify objects or events according to similarities and differences<br>§75.44 (b) 7D. contrast human activities that affect the natural environment<br>§75.46 (c) 3D. analyze the impact of technological innovations on business, industry and agriculture (in U.S.) | §75.85 (a) 1A. understand the care of body systems and their functions<br>§75.85 (a) 1B. relate personal behavior to wellness<br>§75.85 (a) 1D. demonstrate responsible behavior concerning ... tobacco<br>§75.85 (a) 1E. exhibit skills in accident prevention, injury control and emergency action<br>§75.85 (a) 1G. identify components of comprehensive accident prevention programs<br>§75.85 (a) 2A. analyze messages of advertising for health resources and activities<br>§75.85 (a) 3D. describe the wide range of resources designed to protect and promote well-being of people<br>§75.85 (a) 3E. investigate current health issues | §75.89 1B. analyze how supply and demand affect prices<br>§75.89 1E. analyze the roles of economic incentives, voluntary exchange, private property rights and competition<br>§75.89 1G. examine the roles of labor and consumers in the American free enterprise system<br>§75.89 2A. understand how the government both protects and regulates the operations of the market system<br>§75.89 4A. describe the rights and responsibilities of consumers<br>§75.89 4B. identify -- agencies that provide consumer protection<br>§75.89 4D. define basic consumer terminology in the areas of credit, insurance, budgeting and home ownership or leasing |
| Earth Science<br>2.2 geology -- agents of weathering, erosion and deposition.<br>2.6 meteorology -- effects of weather change and severe weather types -- effects of weather on human activities. | Physical Science<br>3.1 energy -- kinds of energy -- sources of energy -- transfer/motion of energy from one form to another.<br>3.4 electricity and magnetism: charges, circuits, properties, electromagnetism, etc. | | | | |

# Introduction

# Introduction

**Why teach fire and burn prevention?**

Each year during the past decade, about 300 Texans have died in fires. The Texas Commission on Fire Protection is committed to reducing this alarming statistic. Analysis of fire statistics shows that the vast majority of fires — and the resulting fire deaths — could have been prevented. Regretfully, most people do not know or practice even simple actions that can prevent fires and burns.

The Texas Commission on Fire Protection believes the key to reducing fires and fire deaths is education. Fire safety education has traditionally been concentrated in elementary school observances of Fire Prevention Week. While these observances can produce effective results, thoughtful analysis of the fire problem and fire safety educational programs shows that a more comprehensive, age-appropriate approach to fire safety education can multiply its benefits.

Recognizing the limits of classroom instruction time, the Texas Commission on Fire Protection has examined the Texas essential elements of instruction to determine the most appropriate topics with which to integrate fire prevention and fire safety. Teachers from across the state have provided feedback on topics appropriate for each grade level, kindergarten through high school.

The result of this extensive research is "Fire Safety for Texans," a series of curriculum guides teaching fire and burn prevention. Each grade-level program has been coordinated with essential elements in that grade and with the unique specific fire safety needs of that age group. The lesson plans have been field tested in classrooms across the state. On average, students who have been taught using these materials score 26 percent higher than students in control groups.

As you use this guide, you and teachers in other grade levels will be part of a continuum of fire safety education spanning all grades. The Texas Commission on Fire Protection believes this continuum will help create a generation of Texans who will be fire-safety aware. In turn, all Texans can benefit from a decrease in the number of needless fire deaths and an increase in safer homes and worksites — a benefit we all deserve.

**This Booklet**

This booklet, **"Fire Safety: Stop the Heat,"** is specifically designed for fourth-grade students. The following sections give specific information on the essential elements applicable to fire and burn prevention and on the age-specific needs of fourth-grade students related to fires and burns. You will also find additional information on the format and materials found in this booklet.

This booklet has three sections:

- **Lesson Plans.** This section includes all steps in the lesson cycle.
- **Teacher Materials.** This section includes all teaching aids and tests.
- **Student Materials — Duplicating Masters.** This section includes master copies of materials to be used by students.

**General Objectives:** To understand principles of extinguishing fires

To investigate issues related to peer pressure related to fire setting

To develop self-motivation to effect changes with family involvement

To explore the role of the fire service in the community

**Essential Elements:** The student will be provided opportunities to:

§75. 26 (e) 3B. recognize interdependence of people and the environment, and recognize personal responsibility for protecting the environment.

§75. 29 (e) 1A. accept the responsibilities of membership in various groups.

§75.25 (e) 4B. describe objects, organisms, and events from the environment.

§75.25 (e) 6A. predict the outcomes of actions based on experience or data.

§75.25 (e) 7B. relate classroom objects, science principles, and activities to daily life.

§75.25 (e) 8B. state relationships among objects, organisms, and events using operational definitions.

§75.26 (e) 1F. practice general emergency procedures.

§75.26 (e) 1G. recognize hazards in the environment, and acquire knowledge and skills needed to avoid injury and to prevent accidents.

§75.26 (e) 2A. recognize benefits and limits of advertising as it relates to selection of health ... products.

§75.26 (e) 2C. recognize the health of the family depends upon contributions of each of its members.

§75.26 (e) 3A. recognize scope of services provided by community health agencies.

§75.29 (e) 1C. explain how groups influence individual behavior.

**Science Content:** Content from the sciences that shall be emphasized at the grade level shall include:

**Life Sciences**

1.4 structure and function of the human body.

1.6 ecology ... interdependence of living things.

1.7 application of life science to careers and everyday life.

1.8 human responsibility regarding life science phenomena.

## Background: Age Profile

Stage of industry vs. inferiority, which means the child needs to stay constructively busy. Because many differences in abilities are becoming more evident, comparisons among children should be avoided.

Areas of development include neuromuscular and social. The child is developing many new physical skills, both gross and fine motor skills. He is making a social move from the home into peer groups and school. He is developing his own self-attitudes and seeks significant human relationships.

Operating under the morality of cooperation, the child sees rules as mutual agreements made by those affected and involved in the situation. She tends to obey rules out of respect. The child can understand causes and consequences of actions.

The child is capable of concrete operations, which means he can solve a variety of problems using concrete objects, and may be capable of formal operations, in which concrete objects are no longer needed for problem solving. He must be active in the instructional process, and activities and materials must be relevant to the child's life or environment. Instruction will be more effective if it involves both the affective and cognitive domains.

The fourth-grader is interested in social, occupational and civic matters. She is becoming able to move from the simple to complex, concrete to abstract, undifferentiated to differentiated, discrete to organized.

**Fire And Burn Hazards**

Curiosity about fires — playing with matches and lighters, candles, fireplace, heaters, other locations where the child can observe a flame; overconfidence in dealing with fires.

Scalds — cooking; tap water; hot foods, especially heated sweet foods.

Appliances — cooking at stoves or with microwave ovens, especially unsupervised; overconfidence in using appliances, such as irons, toasters, etc.

Clothing ignition — playing with matches; flammable clothing and costumes; walking or sleeping too close to heater or other open flame; knowing how to reduce injury.

Outdoor hazards — campfires and barbecues; mini-bikes and lawn mowers; fireworks; high-tension wires.

Other — flammable liquids; fires caused by parents' smoking; injury from smoke and fire gases; knowing how to escape from fire.

**Teacher's Note On Materials:** Illustrations and activity sheets in this booklet are intended to serve as masters. Photocopy, then use the photocopy as directed.

**Pre-Test and Post-Test:** conduct the pre-test prior to presenting the first lesson and the post-test following the fifth lesson.

**Teacher's Note on Closure Activities:** Some activities included in the closure phase of the lesson cycle may be effectively used in the next lesson's focus activity.

**Key To Icons:** The following icons can be used to easily identify activities in the lesson plans:

Lesson objectives

Focus and closure

Creative group activity, including role playing

Lecture

Demonstration

Group problem-solving activity

Answering questions

Guest presenter

Investigation or research

Creative writing activity

Cut-and-paste activity

Group discussion

Drawing, artwork or illustration

# Lesson Plans

LESSON ONE:

# Science of Fire

**Goal:** *To apply knowledge of fire elements to prevent and extinguish fires*

**Objectives:** The student will:

- interpret three elements of fire to explain how to prevent and extinguish fires *25(e)8B, 26(e)1G
- demonstrate reactions to hazardous situations, including removal of fire hazards *26(e)1F

* See "Essential Elements" on Page 3-4.

**Materials:** Pre-tests (p. 17); "Science of Fire" overhead transparency (p. 18); Letter to parents/guardians (p. 29); "Science of Fire" activity sheet (p. 30); "You're Out" activity sheet (p. 31); answer keys (p. 24).

**Focus:** Administer pre-test.

Briefly discuss two meanings of "heat." (High temperature, emotional pressure.) Ask selected students to share experiences with the two kinds of heat.

Introduce unit on fire prevention by telling students that in the unit, they will be studying ways to stop both kinds of heat: the heat that can cause fires and the emotional pressure that they can feel to become involved in starting fires.

List unit objectives:

- To understand principles of extinguishing fires
- To investigate issues related to peer pressure related to fire setting
- To develop self-motivation to effect changes with family involvement
- To explore the role of the fire service in the community

Outline lesson objectives (paragraph above).

**Presentation Of Content:** Introduce and/or review the use of operational definitions.

*Teacher:* "Fire prevention is actually a science. Fire experts work with heat sources and flammable objects in the same way that, for example, chemical scientists work with different kinds of chemicals.

"In conducting science studies, it is important for the scientist to clearly understand how everything he or she is studying is related. One method that scientists use to clearly understand what they are studying is by preparing operational definitions."

Briefly review the general concept of definitions. (Telling what a word means.) Explain that an operational definition tells what the object does and how it is related to other objects.

Display "Science of Fire" overhead transparency, showing only the fire triangle. Have students describe the triangle and the three elements of fire. (For most students, this discussion will be a review.)

Using the fire triangle and the student's experience, have students prepare a simple operational definition of "fire." (Accept reasonable answers. The purpose is to write a reasonable definition, not an exhaustive definition. One option: Fire is a destructive force that occurs when heat, oxygen and fuel are combined.) Write the definition on the chalkboard.

**Guided Practice:** Distribute "Science of Fire" activity sheet, and reveal lower portion of "Science of Fire" overhead transparency. Discuss the three elements of fire, and assist students in preparing operational definitions.

Read "Fires can be prevented by keeping these three elements apart." Emphasize that scientists study heat and fuel sources to learn more about how fires start and how they can be prevented. Have students write an operational definition for fire prevention.

**Independent Practice:** Distribute "You're Out" activity sheet. Direct students to read the first box in each line, then write what could be done to prevent or put out the fire in the second box. Have students circle the element of fire that was removed.

**Reteaching:** Display the fire triangle on the overhead transparency. Have students list where they could find each element in the room. Discuss why it is important to keep the three elements of fire apart to prevent fires.

**Enrichment:** Have students write their own situations, similar to the boxes on the independent practice activity sheet. Have students exchange what they have written, then write what could be done to prevent or put out the fires in the situations their fellow students have written.

**Closure:** Distribute the letters to parents/ guardians; and have students discuss what they learned about extinguishing, or putting out, fires in the first lesson. Emphasize the importance of sharing what they learn with their families.

Introduce the next lesson by telling students that they will be looking at ways to apply what they know about keeping the elements of fire apart. Ask them to think about how outdoor fires might be started.

---

LESSON TWO:

# Pressure – Off

**Goal:** *To recognize peer pressure relating to hazardous activities and to practice methods of overcoming that pressure*

**Objectives:** The student will:

- describe types of hazards from discarded cigarettes *26(e)1F
- describe safe practices with fireworks *26(e)3B, **1.6
- write at least five rules for outdoor fire safety *26(e)3B
- demonstrate resisting peer pressure related to fire, matches and smoking *29(e)1C, **1.8

* ** See "Essential Elements" on Page 3-4.

**Materials:** "What Kind of Fires?" overhead transparency (p. 19); "The Fire Safety Club" question cards and game sheet (p. 32-33); toothpicks; writing paper.

**Focus:** Have students discuss what they think causes outdoor fires. Point out that, like most building fires, most outdoor fires are caused by the careless actions of people, not by natural accidents. Tell students that in this lesson, they will focus on three major causes of outdoor fires and how they can help prevent outdoor fires.

Outline lesson objectives (paragraph above).

**Presentation Of Content:** Display "What Kind of Fires?" overhead transparency. Have students estimate the number of fires caused by fireworks, careless smoking and children playing with fire. Compare the amount of property damage caused by the three types of fires shown on this chart.

Note: This chart illustrates only outdoor fires caused by fireworks, careless smoking and children playing with fire. It does not include all outdoor fires.

*Teacher:* "These fires are caused by persons who are careless or who don't care what is damaged by the fire. Preventing fires means that we must each look at how our careless actions might cause fires. We must also consider who could be hurt or what could be damaged by fires that might be caused by our careless actions."

Divide students into six groups, and have each group discuss the damage that might be caused by an outdoor fire. (Trees killed, grass removed so that erosion occurs, persons in the area burned or killed, buildings nearby damaged.)

**Guided Practice:** *Group discussion and decision-making.* Maintain the six groups of students. Tell students that they will discuss how outdoor fires are caused. Assign two groups to discuss careless smoking, two groups to discuss fireworks, and two groups to discuss children playing with fire.

Distribute writing paper. Have each group write five ways that an outdoor fire might be started. For each fire cause, have the group write a rule on preventing outdoor fires.

Possible answers:

***Careless smoking***

| Cause of fire | Fire prevention rule |
|---|---|
| Throwing cigarette butts from the car window. | Don't throw cigarettes from the car; use an ashtray. |
| Dropping cigarettes on the ground. | Put out with water, and put in trash can. |
| Throwing hot matches on the ground. | Put out with water, and put in trash can. |

***Fireworks***

| Cause of fire | Fire prevention rule |
|---|---|
| Letting hot fireworks touch grass or trees. | Use fireworks only in clear areas, without plants. |
| Shooting aerial fireworks without knowing where they will land. | Use fireworks only in areas with large open spaces, or don't use fireworks at all. |
| Leaving matches and punks on the grass. | Put out with water, and put in trash can. |

***Children playing with fire***

| Cause of fire | Fire prevention rule |
|---|---|
| Allowing children to get matches or lighters. | Keep matches and lighters stored safely where children cannot reach them. |
| Letting a friend talk you into striking matches. | Tell your friends that matches are dangerous. |
| Burning leaves or grass to see what happens. | Stay away from anyone who wants to set anything on fire. |

Accept other reasonable answers.

Have each group briefly present their material; discuss differences and similarities among the groups.

**Independent Practice:** *Role-playing activity.* Distribute "The Fire Safety Club" question-card sheet and game sheet to all students. Divide students into pairs; have each pair cut out the cards and playing pieces. Direct students to read and follow the directions to play the game.

The objective of the game is to reinforce positive attitudes toward resisting peer pressure and to provide students an opportunity to share those positive attitudes.

**Reteaching:** Have students contact the local fire department to learn how many outdoor fires occurred in their community in the past year. Ask students to prepare graphs showing the number of fires caused by careless smoking, fireworks and children playing with fire.

Invite a fire investigator to discuss how he or she determines that a fire was caused by careless smoking, fireworks or children playing with matches or other fire cause.

**Enrichment:** Have students compile the rules prepared during the guided practice activity, then prepare and distribute flyers or posters with the combined list.

**Closure:** Ask students to share their experience with the "Fire Safety Club" game. Reinforce positive experiences, and address the concerns of those with negative experiences. Emphasize that everyone can be winners when they practice fire-safe actions.

Introduce the next lesson by telling students that they will be exploring a different topic – how to be prepared in case a fire occurs.

---

**LESSON THREE:**

# Smoke and Gases

**Goal:** *To focus on hazards of smoke and toxic gases and to encourage proper maintenance of smoke detectors as safety precaution*

**Objectives:** The student will:

- describe characteristics of heated gases from fires *25(e)4B, 26(e)1G
- list and describe effects of toxic gases in smoke and fire byproducts *25(e)7B, 26(e)1G, ** 1.4

* ** See "Essential Elements" on Page 3-4.

**Materials:** "Smoke and Gases in Action" overhead transparency (p. 20); "How Fire Products Hurt the Body" activity sheet (p. 34); "What Would Happen?" activity sheet (p. 35); answer keys (p. 24-25).

**Focus:** Introduce the lesson by having students close their eyes.

*Teacher:* "What you see is what most people who die in fires see – just darkness. They were either asleep and never realized there was a fire, or the fire had blocked their vision so that they couldn't see the way out."

Have students open their eyes.

*Teacher:* "Now, what do you see? (Light, brightness.) Learning about fire and fire prevention is like opening your eyes. You can see the dangers, and that will give you the motivation to prevent fires – or stop the heat, as we've been discussing in this unit."

Outline lesson objectives (paragraph above).

**Presentation Of Content:** Display "Smoke and Gases in Action" overhead transparency.

*Teacher:* "The largest number of fire deaths occur in rooms very similar to this one. The major difference is that this room has a smoke alarm that is warning people in the home that there is a fire."

Read and discuss the information in the box, which lists the principle fire by-products that affect people and their

effects on the body. Point out that, while the words may difficult to learn, what these by-products do to the body should be easy to remember.

**Note:** Some students may be uncomfortable with this information. Encourage students to discuss how they feel. Remind them that this information isn't intended as a "scare tactic," but is an accurate description of facts.

**Guided Practice:** Continue to display "Smoke and Gases in Action." Distribute "How Fire Products Hurt the Body." Have students read the words in the word list, then write the words next to the part of the body that the product can affect. Note: Words may be used more than once.

Divide students into small discussion groups. Have students discuss how this information affects how they feel about smoke alarms. Ask them whether this motivates them to check their smoke alarms at home.

**Independent Practice:** Distribute "What Would Happen?" activity sheet. Have students read and answer the questions.

**Reteaching:** Invite an emergency medical technician or emergency care nurse to talk about how fires affect the body. Have the guest specifically discuss the fact that most fire deaths caused by inhaling toxic gases, not by burns.

**Enrichment:** Have students write a letter to their parents describing what they have learned about fire by-products. Encourage the students to share how they feel about being sure that the smoke alarms in the home are working properly.

**Closure:** Briefly review correct answers to the independent practice activity sheet. Have students that completed the enrichment activity share the letters they wrote.

Introduce next lesson by telling students that they will learn more about smoke alarms and other fire safety devices. Have them look for smoke alarms in their homes and other buildings and be prepared to discuss what they see in the next lesson.

---

LESSON FOUR:

# Safe Get-Away

**Goal:** *To recognize methods of escaping and reporting fire*

**Objectives:** The student will:

- identify safety features in school, home and other buildings *26(e)1F,1G
- describe local locations and uses of fire alarm boxes *26(e)1F
- explain need for exit plans and drills, especially at home *25(e)6A, 26(e)1F,2C, 29(e)1A, **1.8

* ** See "Essential Elements" on Page 3-4.

**Materials:** "Helps For A Safe Get-Away" overhead transparency (p. 21); "Safety Features In Our Building" activity sheet (p. 36); writing paper; answer key (p. 25).

**Focus:** Ask students to share what they found in their search for smoke alarms in their homes and other buildings. Look for smoke alarms in the classroom. (Probably none are located in the classroom.)

*Teacher:* "Smoke alarms are most commonly used in homes because of the great danger of dying or being injured by smoke from a fire while you are sleeping. In buildings such as schools, stores and other business buildings, other types of methods of controlling fires or avoiding injuries are used. In this lesson, we will learn about some of these methods."

Outline lesson objectives (paragraph above).

**Presentation Of Content:** Display "Helps For A Safe Get-Away" overhead transparency. Explain that the illustration shows six of the most common types of fire-safety devices used in buildings other than homes. Beginning with item A, have the students describe what they see and what they think it does. Then write the correct identification in the blank and provide the following information.

**A: Fire suppression sprinkler, or fire sprinkler.** Located on ceilings or walls. Is set off by high temperature immediately below or nearby. Usually set off one at a time. Most commonly used in buildings where fire damage could be catastrophic, such as inventory storage areas or large meeting rooms (movie theaters, etc.)

**B: Smoke alarm, or smoke detector.** (Alarm is a more accurate description, because it sounds an alarm when smoke is detected.) Located on ceilings or walls. Detects smoke particles and sounds an alarm. May be linked to other alarms or an alarm system. Most commonly used in residential buildings (houses, dormitories).

**C. EXIT sign.** Located on exit doorways, or immediately next to exit doorways. Most fire safety codes require the sign to be lighted. Usually red, although some signs are now green because some fire safety experts say that green is more visible through smoke.

**D: EXIT directional sign.** Located in hallways, usually every 10-15 feet (spans are determined by the fire code). Arrows point to the nearest fire exit. Some codes require EXIT directional signs to be lighted.

**E: Fire alarm pull station.** Located on wall, usually about four feet from the floor. Usually used in buildings with large numbers of people, who could notice fires before automatic systems.

**F: Fire exitway.** Hallway or stairs leading out of the building. Separated by a fire-resistant door, which must be kept closed except when someone is passing through.

Discuss the importance of knowing about fire exitways. Explain that the purpose of fire exit drills is to be sure that everyone is aware of the fire exits.

**Guided Practice:** *Investigation.* Distribute "Fire Safety Features In Our Building" activity sheet. Divide class into teams of three students each. Have each team read the directions and complete the activity. Monitor students as they search for the various types of fire-safety equipment.

Evaluate students on their observations and accuracy in recording their observations.

**Independent Practice:** *Creative writing activity.* Distribute writing paper. Direct students to write a paragraph on the following question:

Why is it important to plan for fires by having fire exit drills, especially at home?

Evaluate students on their awareness of the need to prepare for fire emergencies.

**Reteaching:** Invite the school safety director to talk about fire safety features of the building discussed in the lesson. Ask him or her to explain why these items are important.

**Enrichment:** Have students investigate fire safety features in other buildings, such as stores, office buildings or malls.

**Closure:** Have selected students read the paragraphs they wrote. Reinforce statements and opinions that reflect an awareness of the importance of fire planning. Briefly review the fire safety devices presented in the lesson.

Introduce the final lesson by asking students to write down four different things that a fire department does. Tell students that in the last lesson they will learn several ways that fire departments help "stop the heat."

---

**LESSON FIVE:**

# Emergencies

**Goal:** *To explore the fire fighter's role in community safety*

**Objectives:** The student will:

- list the four primary services provided by the fire services *26(e)3A
- describe fire department's role in helping the community stay safe and healthy *26(e)3A, **1.7

* ** See "Essential Elements" on Page 3-4.

**Materials:** Chalkboard or blank overhead transparency; "Emergency Answers" overhead transparency (p. 22); "Emergency Answers" activity sheet (p. 37); writing paper; post-tests (p. 23); answer keys (p. 24-25).

**Focus:** Briefly review the fire safety equipment presented in the previous lesson. Ask students to share their lists of four things that fire departments do. If possible, write their items on the chalkboard or overhead transparency.

*Teacher:* "Most of us think that the fire department's only job is to put out fires. But fire departments have several other duties that are just as important."

Outline lesson objectives (paragraph above).

**Presentation Of Content:** Write the following words on the chalkboard or overhead transparency: inspection, suppression, rescue, investigation.

*Teacher:* "These four words describe the four primary duties of a local fire department. First, the fire department is responsible for fire inspections."

Ask students to define inspection. (Checking or looking for problems.)

*Teacher:* "During a fire inspection, the inspector searches for problems that could cause a fire. By conducting inspections, the fire department can help prevent fires.

"The second responsibility is suppression. The dictionary defines 'suppression' as the act of stopping or putting down. Fire suppression means to control or put out the fire.

"The third responsibility is rescue. How are fire departments involved in rescues?"

(Getting people from fires and other accidents, but only when it is safe for the fire fighter; accept additional reasonable answers.)

"The fourth responsibility is investigation. What does 'investigation' mean? (Looking closely for facts.) The fire department investigates most fires to determine how they started. Investigating a fire is very important, especially if the fire department thinks it might have been started on purpose."

**Guided Practice:** Distribute "Emergency Answers" activity sheet, and display "Emergency Answers" overhead transparency. Direct student attention to the word list. Have students complete the puzzle, working in small groups. Option: Complete the puzzle as a whole-class activity.

**Independent Practice:** Have students select from the following two activities:

- Talk with a fire fighter about his or her job, and write a short report.
- Write a short paper on how you would help the community by being a fire fighter.

Both activities should include references to information presented during this unit. Encourage students to include information on the three elements of fire, how fire byproducts can hurt the body, and the importance of fire-safety equipment.

**Reteaching:** Invite a fire fighter, fire inspector or fire investigator to tell the students why his or her job is important. Ask the guest to emphasize how the fire department helps the community stay safe and healthy.

**Enrichment:** Have students check local newspapers for articles about fire department activities. Have them classify the fire department's activities into the four categories of services.

**Closure:** Briefly review concepts presented during the unit. Discuss how students used what they had learned during the unit in writing their papers or reports. Ask students if they are going to change any of their actions or work more with their family to prevent fires.

**Administer post-test.**

# Teacher Supplemental Materials

Name _____

**Fourth Grade: Fire Safety: Stop the Heat** **PRE-TEST**

Complete the sentences:

1. Fire has (how many?)_____ elements.
2. "Fire prevention" means _____

_____

What could you do to prevent a fire in the following?

3. Someone asks you to play with matches. _____
4. You are shooting fireworks outdoors. _____
5. A dishtowel is on the stove. _____

Circle the correct answer:

| | | | |
|---|---|---|---|
| 6. | A fire makes only smoke and heat. | True | False |
| 7. | A fire can be stopped by taking away oxygen (air). | True | False |
| 8. | A liquid cannot catch on fire. | True | False |
| 9. | A family can work together to prevent fires in the home. | True | False |

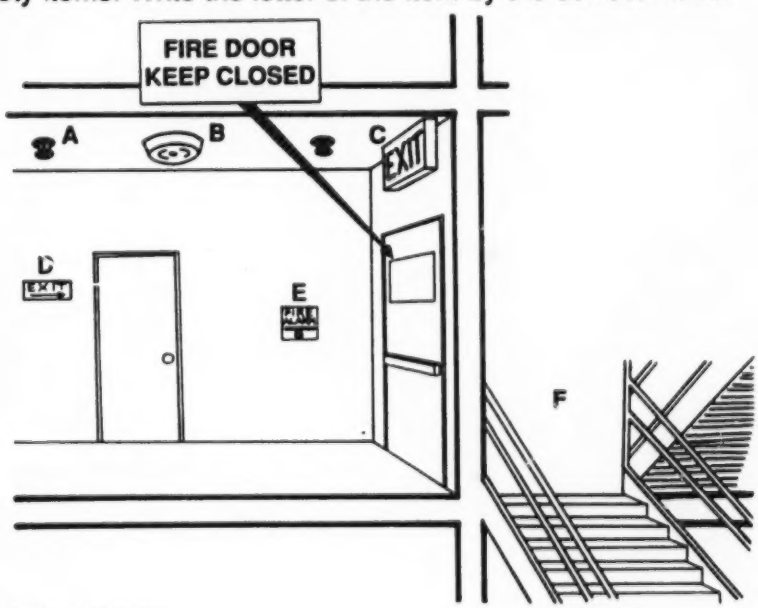
10: List four major jobs of the fire department:

A _____ C _____

B _____ D _____

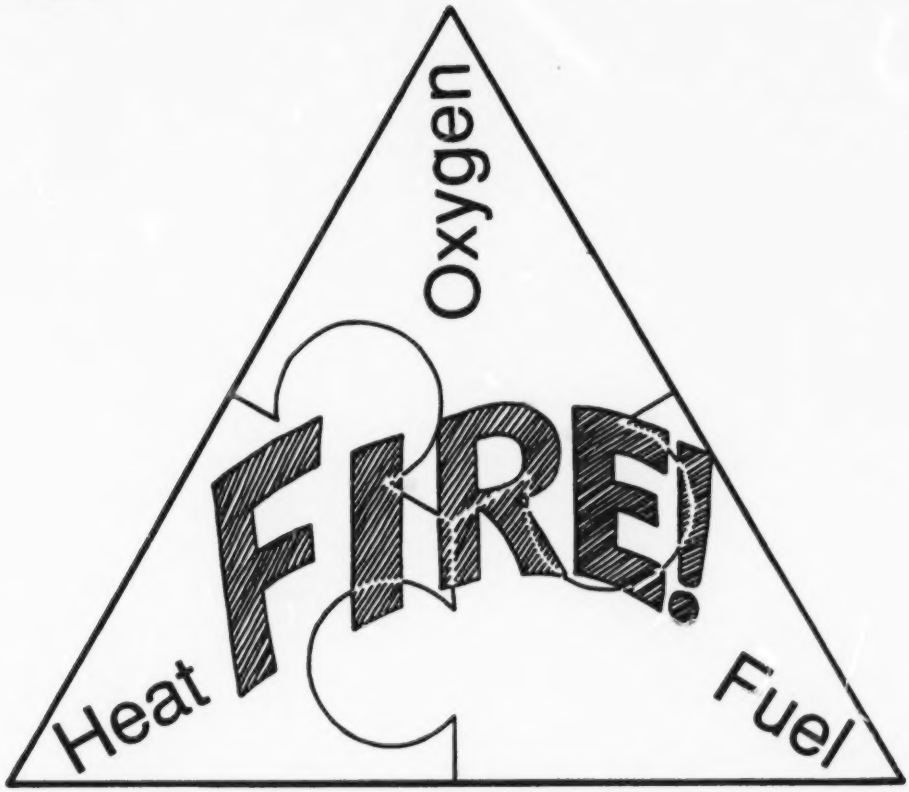
The picture shows six fire safety items. Write the letter of the item by the correct name.

11. ____fire alarm pull station
12. ___EXIT sign
13. ____smoke alarm
14. ____fire sprinkler
15. ____EXIT directional sign
16. ____fire exitway




Teacher: Use prior to beginning Lesson One, Page 9. Duplicate for student use.

## Science of Fire




Three elements are needed to start a fire and keep it going.

For each word, write a sentence that describes its role in starting a fire.

Heat _____

_____

Fuel _____

_____

Oxygen _____

_____

Fires can be prevented by keeping these three elements from combining.

Write a sentence that describes

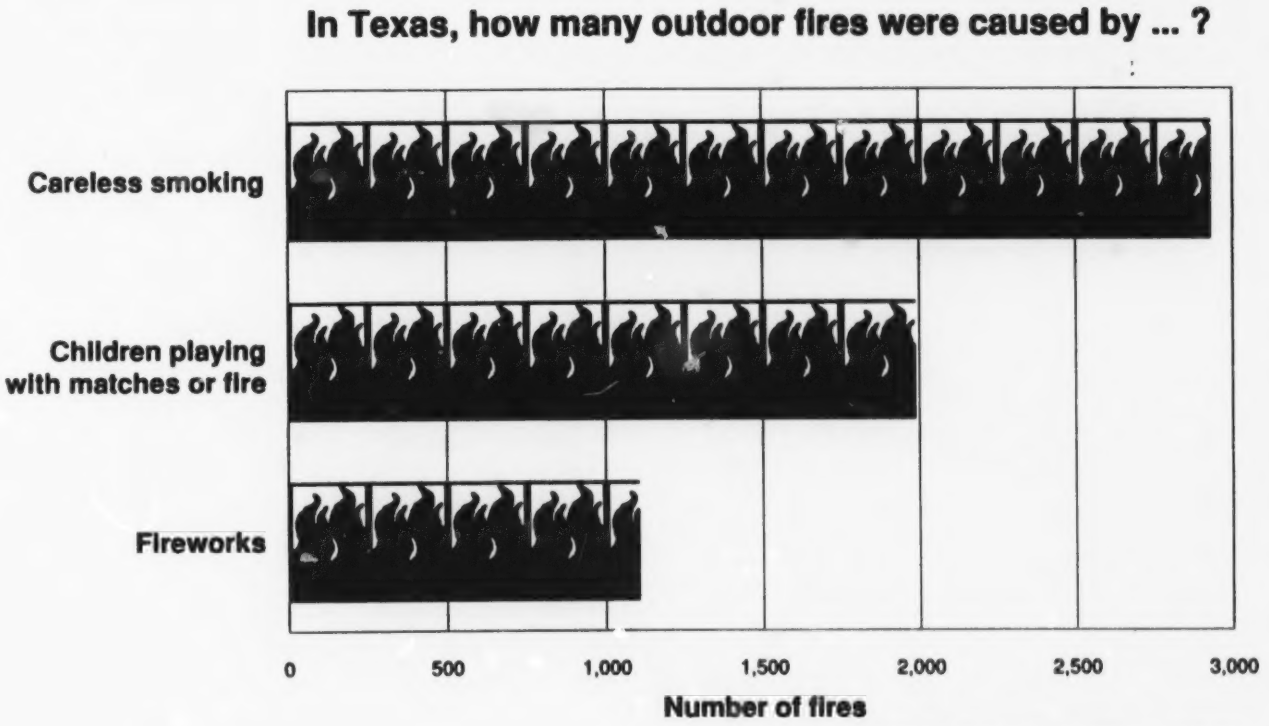
Fire prevention _____

_____

Teacher: Use with Lesson One, Page 9. Transfer to overhead transparency.

Teacher: Use with Lesson Two, Page 10. Transfer to overhead transparency.

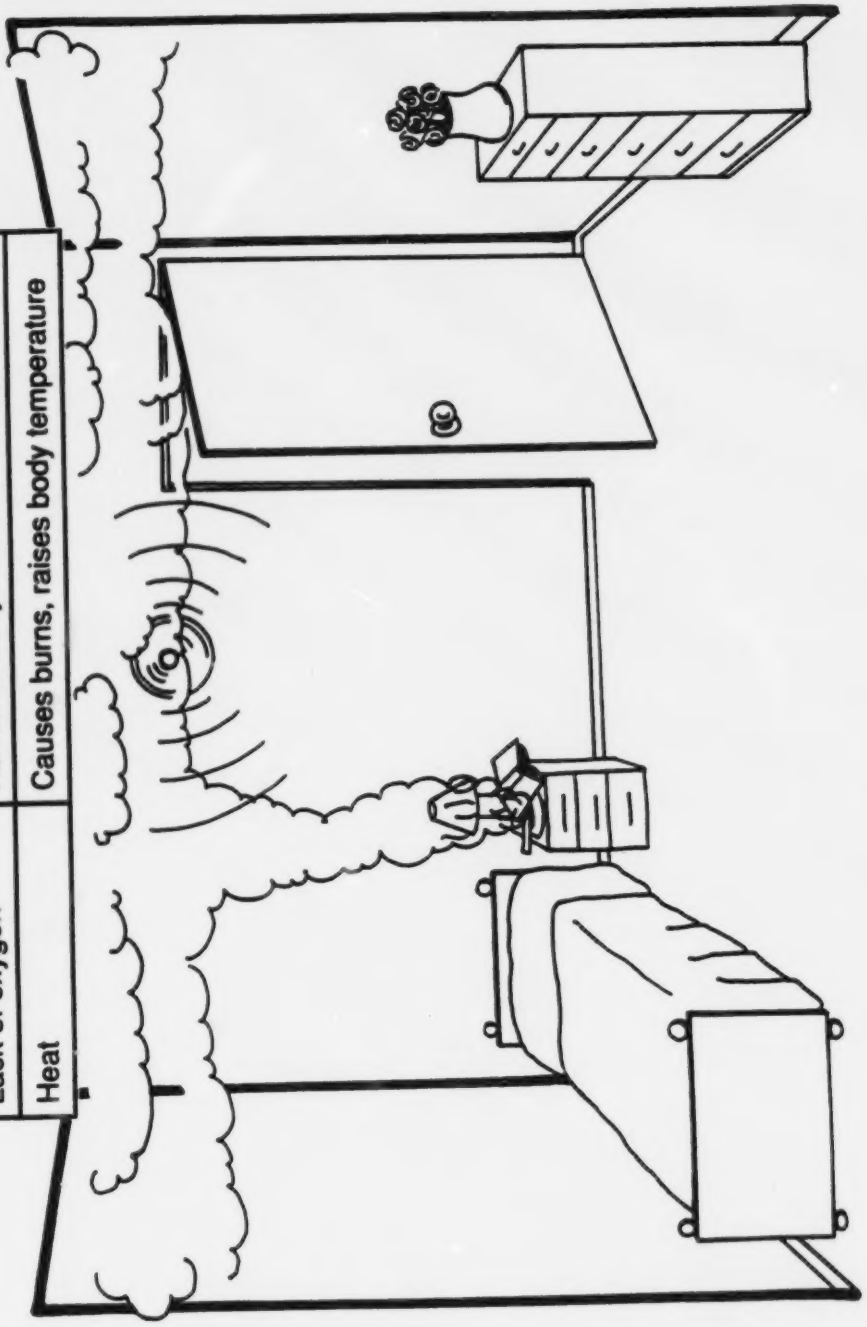
## What Kind of Fires?




Facts for 1990 from the Texas Fire Incident Reporting System

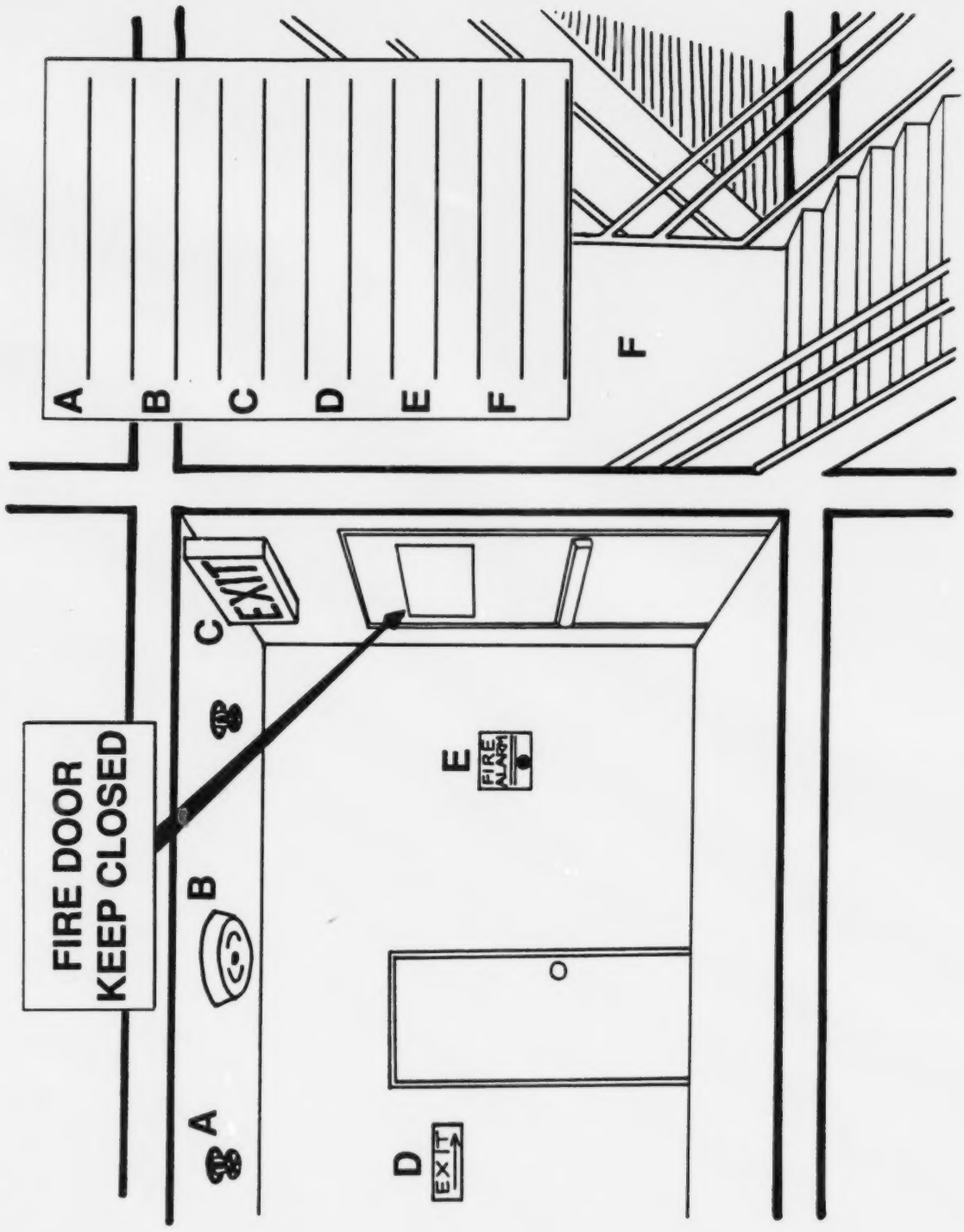
## Smoke and Gases in Action

| Fire products | What they do |
|---|---|
| Carbon monoxide | Keeps blood from carrying oxygen |
| Smoke | Irritates eyes and lungs, blocks vision |
| Hydrogen cyanide | Prevents cells from using oxygen |
| Lack of oxygen | Removes body's source of oxygen |
| Heat | Causes burns, raises body temperature |



Teacher: Use with Lesson Three, Page 11. Transfer to overhead transparency.

## Helps For A Safe Get-Away



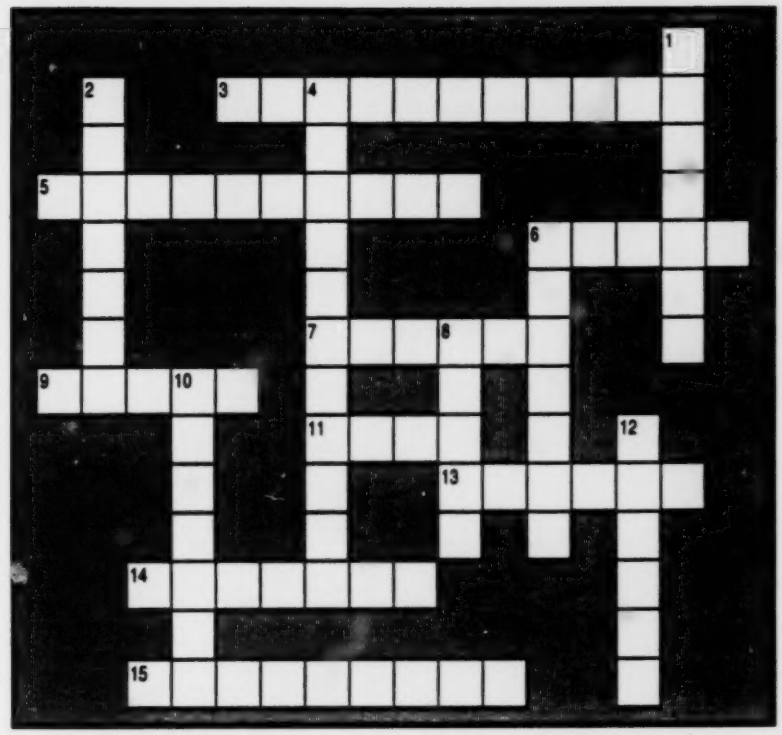

Teacher: Use with Lesson Four, Page 12. Transfer to overhead transparency.

## Emergency Answers

Crossword Puzzle Activity Sheet

### Word List

| | |
|---|---|
| before | prevention |
| caused | put fires out |
| check | rescue |
| clean up | safe |
| codes | service |
| correct | stop fires |
| healthy | suppression |
| inspect | teach |



### Across

3. Putting out fires is called _____.

5. Keeping fires from starting is called _____.

6. _____ are rules that tell what to do to prevent fires.

7. _____ means to take someone out of a fire.

9. Fire fighters visit schools and clubs to _____ people how to prevent fires.

11. To be _____ is to be away from fire dangers.

13. Fire investigators look for what _____ the fire.

14. Preventing fires and burn helps us stay _____.

15. The job of the fire service is to _____ _____.

### Down

1. Fire inspectors _____ buildings to look for fire dangers.

2. Fire fighters, inspectors and investigators are in the fire _____.

4. Suppression means to _____ _____ _____.

6. Fire fighters also _____ _____ after putting out the fire.

8. To inspect is to _____ for fire dangers.

10. After an inspection, fire inspectors tell the owner how to _____ fire dangers.

12. Look for fire dangers _____ you have a fire.

Teacher: Use with Lesson Five, Page 13. Transfer to overhead transparency.

**Name:** _____

**Fourth Grade: Fire Safety: Stop the Heat** **POST-TEST**

Complete the sentences:

1. Fire has (how many?)_____ elements.
2. "Fire prevention" means _____

_____

What could you do to prevent a fire in the following?

3. Someone asks you to play with matches. _____
4. You are shooting fireworks outdoors. _____
5. A dishtowel is on the stove. _____

Circle the correct answer:

| | | | |
|---|---|---|---|
| 6. | A fire makes only smoke and heat. | True | False |
| 7. | A fire can be stopped by taking away oxygen (air). | True | False |
| 8. | A liquid cannot catch on fire. | True | False |
| 9. | A family can work together to prevent fires in the home. | True | False |

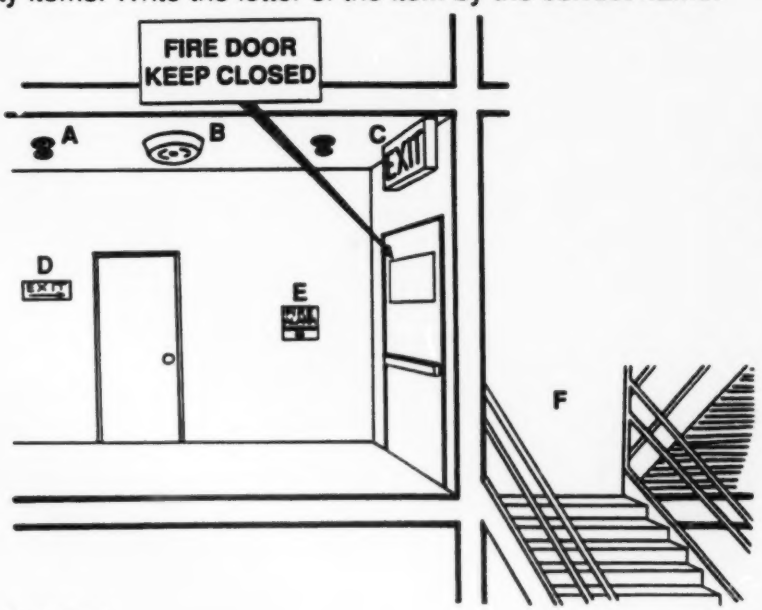
10: List four major jobs of the fire department:

A _____ C _____

B _____ D _____

The picture shows six fire safety items. Write the letter of the item by the correct name.

11. ____fire alarm pull station
12. ___EXIT sign
13. ____smoke alarm
14. ____fire sprinkler
15. ____EXIT directional sign
16. ____fire exitway




Teacher: Use following Lesson Five, Page 13. Duplicate for student use.

## ANSWER KEY-1

Name _____

Fourth Grade: Fire Safety: Stop the Heat PRE-TEST POST-TEST

Complete the sentences:

1. Fire has (how many?) three elements.
2. "Fire prevention" means keeping heat, fuel and oxygen apart so a fire can't start.

What could you do to prevent a fire in the following? Accept reasonable answers.

3. Someone asks you to play with matches. Say "no" and tell an adult.
4. You are shooting fireworks outdoors. Stay away from grass and trees.
5. A dishtowel is on the stove. Remove the dishtowel.

Circle the correct answer:

6. A fire makes only smoke and heat. True (False)
7. A fire can be stopped by taking away oxygen (air). (True) False
8. A liquid cannot catch on fire. True (False)
9. A family can work together to prevent fires in the home. (True) False

10: List four major jobs of the fire department: (Accept student terms)

A inspection C rescue

B suppression D investigation

The picture shows six fire safety items. Write the letter of the item by the correct name.

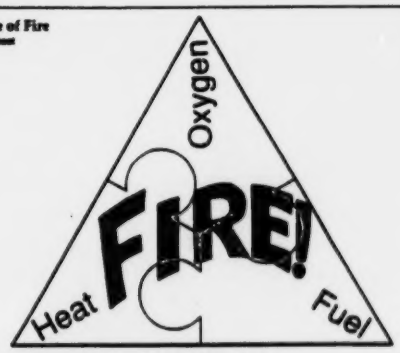
11. E fire alarm pull station
12. C EXIT sign
13. B smoke alarm
14. A fire sprinkler
15. D EXIT directional sign
16. F fire walkway

Commission on Fire Protection Fire Safety For Texans Fourth Grade: Fire Safety: Stop the Heat

Name _____

Science of Fire

Activity Sheet




Three elements are needed to start a fire and keep it going.

For each word, write a sentence that describes its role in starting a fire.

Heat is one of the three elements of fire that, combined with fuel and oxygen, can cause a fire.

Fuel is one of the three elements of fire that, combined with heat and oxygen, can cause a fire.

Oxygen is one of the three elements of fire that, combined with heat and fuel, can cause a fire.

Fires can be prevented by keeping these three elements from combining.

Write a sentence that describes

Fire prevention is keeping heat, fuel and oxygen from coming together to keep fire from starting.

Teacher: Use with Lesson One, Page 5. Duplicate for student use.

Commission on Fire Protection Fire Safety For Texans 30 Fourth Grade: Fire Safety: Stop the Heat

Name _____

You're Out!

Activity Sheet

Read the first box, then answer the question in the second box. Circle the element of fire that was removed. Accept other reasonable answers.

| | | |
|---|---|---|
| A cloth dishtowel is laying on the stove. Mother turns on a burner to boil water. | What can you do to prevent a fire? Remove the towel. | (Heat) Fuel Oxygen |
| Grandfather uses an electric heater during the winter. To keep warm at night, he put the heater close to the bed. | What can you to prevent a fire? Keep the heater 3 feet from the bed. | (Heat) Fuel Oxygen |
| A pan of hot oil is cooking on the stove. It catches fire. | What can you do to put out the fire? Cover the pan with a large lid. | Heat Fuel (Oxygen) |
| A cigarette is left burning in an ashtray. The ashtray is sitting on the arm of the sofa. | What can you do to prevent a fire? Remove the cigarette. | (Heat) Fuel Oxygen |

Teacher: Use with Lesson One, Page 5. Duplicate for student use.

Commission on Fire Protection Fire Safety For Texans 31 Fourth Grade: Fire Safety: Stop the Heat

Name _____

How Fire Products Hurt the Body

Activity Sheet

Read the words in the list of fire products (in the table below). Then write the correct words in the box at the bottom of the page.

Hint: Remember that oxygen must go through your lungs to get to your body

| Fire products | What they do |
|---|---|
| Carbon monoxide | Keeps blood from carrying oxygen |
| Smoke | Irritates eyes and lungs, blocks vision |
| Hydrogen cyanide (SIGH-uh-nide) | Prevents cells from using oxygen |
| Lack of oxygen | Removes body's source of oxygen |
| Heat | Causes burns, raises body temperature |

What can harm –

Eyes? smoke

Nose? smoke

Mouth and throat? smoke

Lungs? carbon monoxide, hydrogen cyanide, lack of oxygen

Entire body? heat

Teacher: Use with Lesson Three, Page 11. Duplicate for student use.

Commission on Fire Protection Fire Safety For Texans 32 Fourth Grade: Fire Safety: Stop the Heat



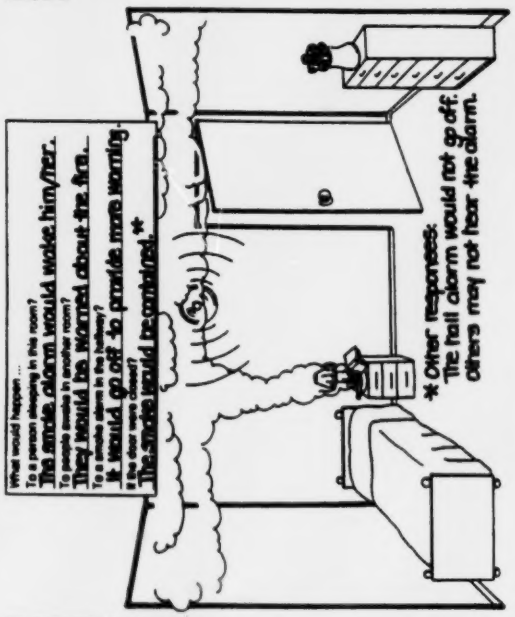
BEST COPY AVAILABLE

## ANSWER KEY-2

Name _____

**What Would Happen?**

Activity Sheet


What would happen...
To a person sleeping in this room?
The smoke alarm would wake him/her.
To people awake in another room?
They would be warned about the fire.
To a smoke alarm in the hallway?
It would go off to provide more warning.
If the door were closed?
The smoke would be contained. *
* Other responses:
The hall alarm would not go off;
others may not hear the alarm.

Teacher: Use with Lesson Plan, Page 11. Duplicate for student use.



Name _____

**Fire Safety Features In Our Building**

Investigation Activity

Look around your building. Can you find the fire safety features in the list below? Write what you find in the table below.

Fire sprinkler | Smoke alarm | EXIT sign
EXIT directional sign | Fire alarm pull station | Fire walkway

| | | |
|---|---|---|
| Accept reasonable answers. Following are possible responses | | |
| EXIT sign | over a door | red or green lighted from inside |
| EXIT directional sign | in hallway | red or green has an arrow may be lighted |
| Fire alarm pull station | in hallway | red covered by glass has a small hammer |
| | | |
| | | |

Teacher: Use with Lesson Plan, Page 12. Duplicate for student use.



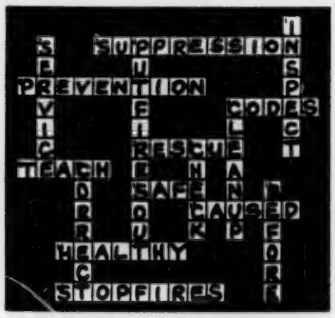
Name _____

**Emergency Answers**

Crossword Puzzle Activity Sheet

**Word List**

| | |
|---|---|
| before | prevention |
| caused | put fires out |
| check | rescue |
| clean up | safe |
| codes | service |
| correct | stop fires |
| healthy | suppression |
| inspect | teach |




**Across**

3. Putting out fires is called _____.
5. Keeping fires from starting is called _____.
6. _____ are rules that tell what to do to prevent fires.
7. _____ means to take someone out of a fire.
9. Fire fighters visit schools and clubs to _____ people how to prevent fires.
11. To be _____ is to be away from fire dangers.
13. Fire investigators look for what _____ the fire.
14. Preventing fires and burn helps us stay _____.
15. The job of the fire service is to _____.

**Down**

1. Fire inspectors _____ buildings to look for fire dangers.
2. Fire fighters, inspectors and investigators are in the fire _____.
4. Suppression means to _____ _____ _____.
6. Fire fighters also _____ after putting out the fire.
8. To inspect is to _____ for fire dangers.
10. After an inspection, fire inspectors tell the owner how to _____ fire dangers.
12. Look for fire dangers _____ you have a fire.

Teacher: Use with Lesson Plan, Page 13. Duplicate for student use.





BEST COPY AVAILABLE

# Student Materials — Duplicating Masters

## Letter to Parent(s)/Guardian(s)

Dear Parent (s)/Guardian(s):

Our class is beginning a unit of study on fire and burn prevention titled "Fire Safety: Stop the Heat," which was developed by the Texas Commission on Fire Protection. The student goals in this unit are:

To understand principles of extinguishing fires

To investigate issues related to peer pressure related to fire setting

To develop self-motivation to effect changes with family involvement

To explore the role of fire service in the community

Fire safety involves every member of the household. This unit is designed to help fourth-graders begin developing an awareness that they can contribute positively to the safety of their families. Your assistance with these activities will be very valuable.

Sincerely,

_____

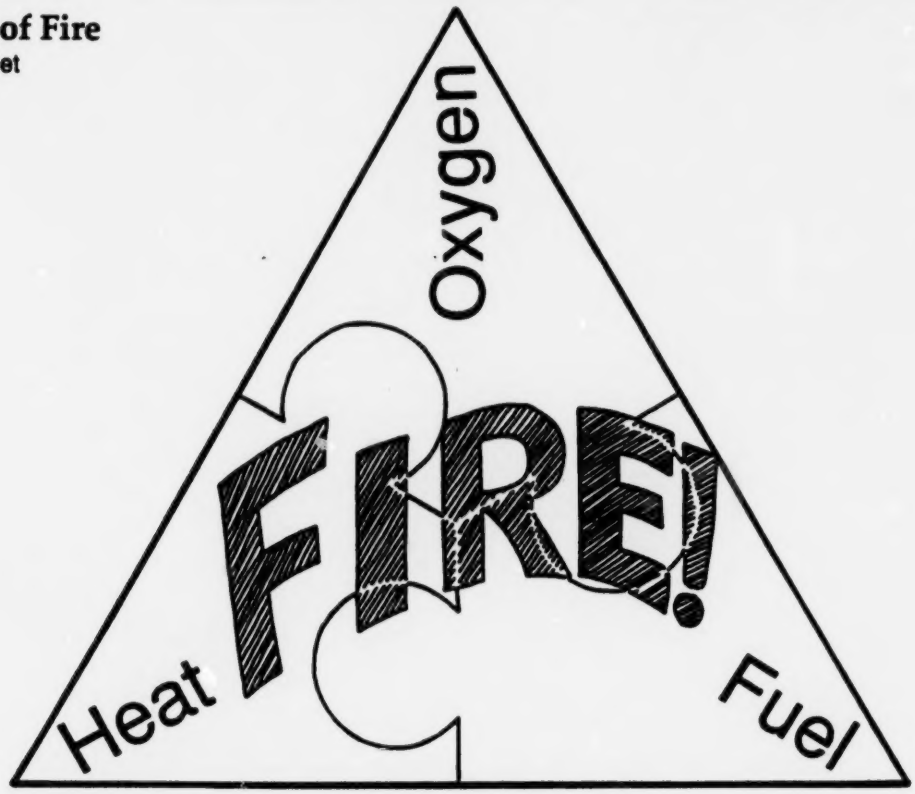
Teacher

Teacher: Use with Lesson One, Page 9. Duplicate and distribute to students when beginning unit

Name _____

## Science of Fire

Activity Sheet




Three elements are needed to start a fire and keep it going.

For each word, write a sentence that describes its role in starting a fire.

Heat _____

_____

Fuel _____

_____

Oxygen _____

_____

Fires can be prevented by keeping these three elements from combining.

Write a sentence that describes

Fire prevention _____

_____

Teacher: Use with Lesson One, Page 9. Duplicate for student use.

Name _____

## You're Out!

Activity Sheet

Read the first box, then answer the question in the second box. Circle the element of fire that was removed.

| | | | |
|---|---|---|---|
| A cloth dishtowel is laying on the stove. Mother turns on a burner to boil water. | What can you do to prevent a fire? | What element was removed? | Heat<br>Fuel<br>Oxygen |
| Grandfather uses an electric heater during the winter. To keep warm at night, he put the heater close to the bed. | What can you do to prevent a fire? | What element was removed? | Heat<br>Fuel<br>Oxygen |
| A pan of hot oil is cooking on the stove. It catches fire. | What can you do to put out the fire? | What element was removed? | Heat<br>Fuel<br>Oxygen |
| A cigarette is left burning in an ashtray. The ashtray is sitting on the arm of the sofa. | What can you do to prevent a fire? | What element was removed? | Heat<br>Fuel<br>Oxygen |

Teacher: Use with Lesson One, Page 9. Duplicate for student use.

Name _____

# The Fire Safety Club

Question Cards for Two-Player Cooperative Game

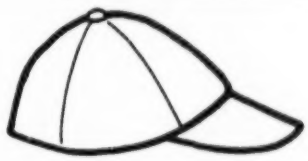
Cut out the cards and playing pieces. Stack the cards upside down. Insert a toothpick halfway through the triangle. Place the game pieces on the starting square.

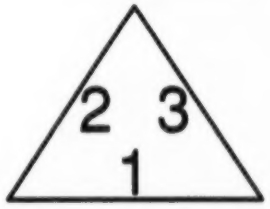
To play the game, one player spins the triangle, then turns over a card. The player reads the question and gives an answer.

If the other player says that the answer shows safe actions, the first player moves the number of spaces shown on the triangle. Take turns spinning and answering the questions.

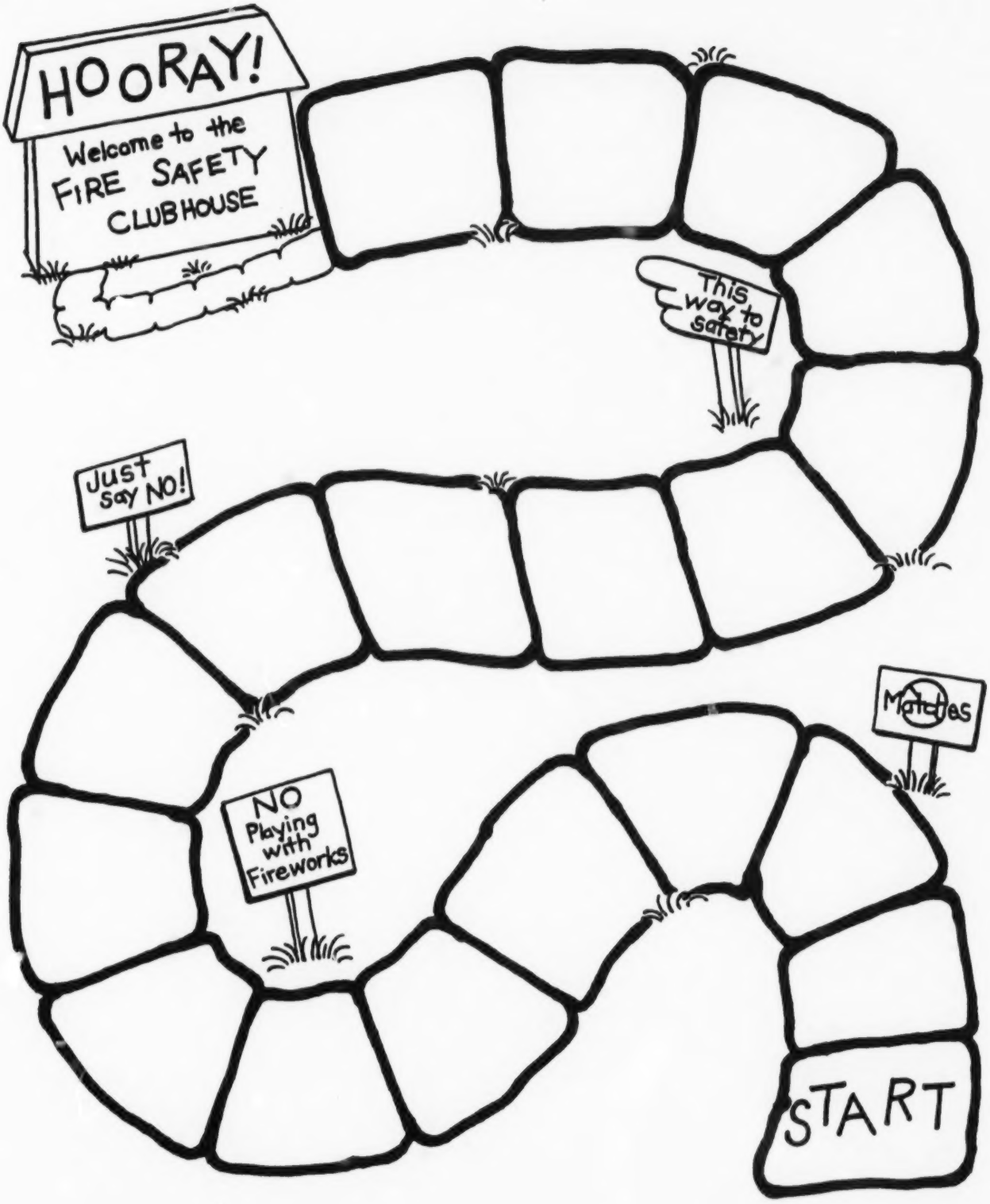
The game ends when both players get to the Fire Safety Clubhouse.

| | | |
|---|---|---|
| You find some matches. What should you do? | Your friend asks you to smoke a cigarette. What should you say? | Your little brother is playing with matches. What should you do? |
| Your sister is playing with a lighter. What should you do? | Your friend wants to buy a cigarette lighter. What should you do? | An older boy asks you to play with fireworks. What should you do? |
| There are matches on the bathroom counter. What should you do? | Your friend has some bottle rockets. He asks you to get matches. What should you do? | You're riding in the car with an adult. He rolls down the window to throw out a cigarette. What should you do? |
| You are camping with your family. Your brother is playing with the campfire. What should you do? | Your brother is putting paper inside the heater. What should you do? | Your sister asks you to show her how to light a match. What should you do? |
| Your friend wants to see how long a match will burn. What should you do? | Your friend wants to see how fast a stick will burn. What should you do? | Your friend wants to try burning a liquid. What should you do? |






Teacher: Use with Lesson Two, Page 10. Duplicate for student use with the Fire Safety Club Game.




Teacher: Use with Lesson Two, Page 10. Duplicate for student use with question cards.

Name _____

## How Fire Products Hurt the Body

Activity Sheet

Read the words in the list of fire products (in the table below). Then write the correct words in the box at the bottom of the page.

*Hint:* Remember that oxygen must go through your lungs to get to your body.

| Fire products | What they do |
|---|---|
| Carbon monoxide | Keeps blood from carrying oxygen |
| Smoke | Irritates eyes and lungs, blocks vision |
| Hydrogen cyanide (SIGH-uh-NIDE) | Prevents cells from using oxygen |
| Lack of oxygen | Removes body's source of oxygen |
| Heat | Causes burns, raises body temperature |

**What can harm ...**

Eyes? _____

Nose? _____

Mouth and throat?

_____

Lungs?

_____

_____

_____

Entire body?

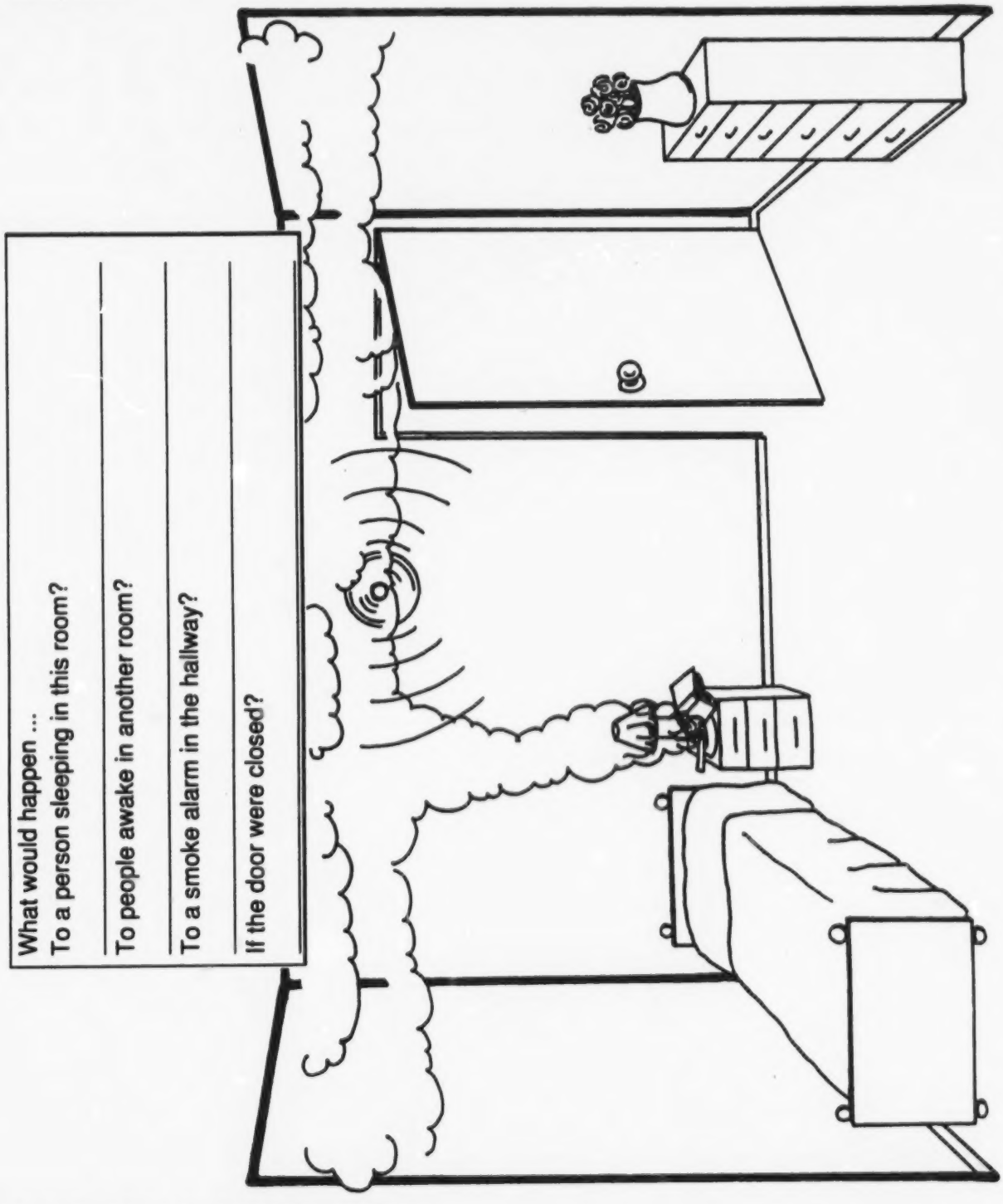
_____

Teacher: Use with Lesson Three, Page 11. Duplicate for student use.

Name _____

# What Would Happen?

Activity Sheet


What would happen ...
To a person sleeping in this room?
To people awake in another room?
To a smoke alarm in the hallway?
If the door were closed?

Teacher: Use with Lesson Three, Page 11. Duplicate for student use.

Name _____

## Fire Safety Features In Our Building

Investigation Activity

Look around your building. Can you find the fire safety features in the list below? Write what you find in the table below.

| | | |
|---|---|---|
| Fire sprinkler | Smoke alarm | EXIT sign |
| EXIT directional sign | Fire alarm pull station | Fire exitway |

| Name | Location | What does it look like? |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

Teacher: Use with Lesson Four, Page 12. Duplicate for student use.

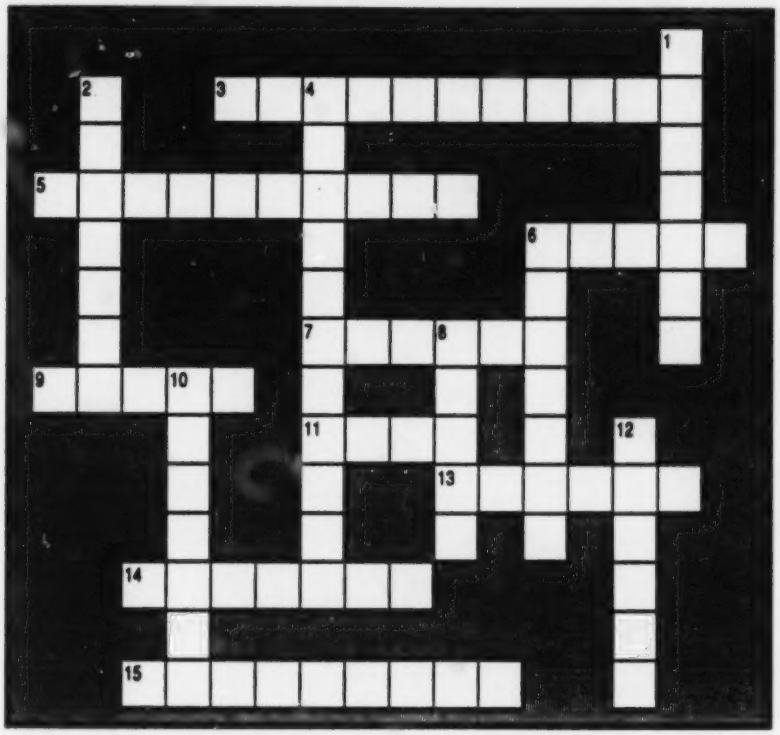
Name _____

## Emergency Answers

Crossword Puzzle Activity Sheet

### Word List

| | |
|---|---|
| before | prevention |
| caused | put fires out |
| check | rescue |
| clean up | safe |
| codes | service |
| correct | stop fires |
| healthy | suppression |
| inspect | teach |



### Across

3. Putting out fires is called _____.

5. Keeping fires from starting is called _____.

6. _____ are rules that tell what to do to prevent fires.

7. _____ means to take someone out of a fire.

9. Fire fighters visit schools and clubs to _____ people how to prevent fires.

11. To be _____ is to be away from fire dangers.

13. Fire investigators look for what _____ the fire.

14. Preventing fires and burn helps us stay _____.

15. The job of the fire service is to _____ _____.

### Down

1. Fire inspectors _____ buildings to look for fire dangers.

2. Fire fighters, inspectors and investigators are in the fire _____.

4. Suppression means to _____ _____ _____.

6. Fire fighters also _____ _____ after putting out the fire.

8. To inspect is to _____ for fire dangers.

10. After an inspection, fire inspectors tell the owner how to _____ fire dangers.

12. Look for fire dangers _____ you have a fire.

Teacher: Use with Lesson Five, Page 13. Duplicate for student use.